

## Chapter 3

# The 5 A Day State-Based Program: A Model of an Effective Infrastructure

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## INTRODUCTION

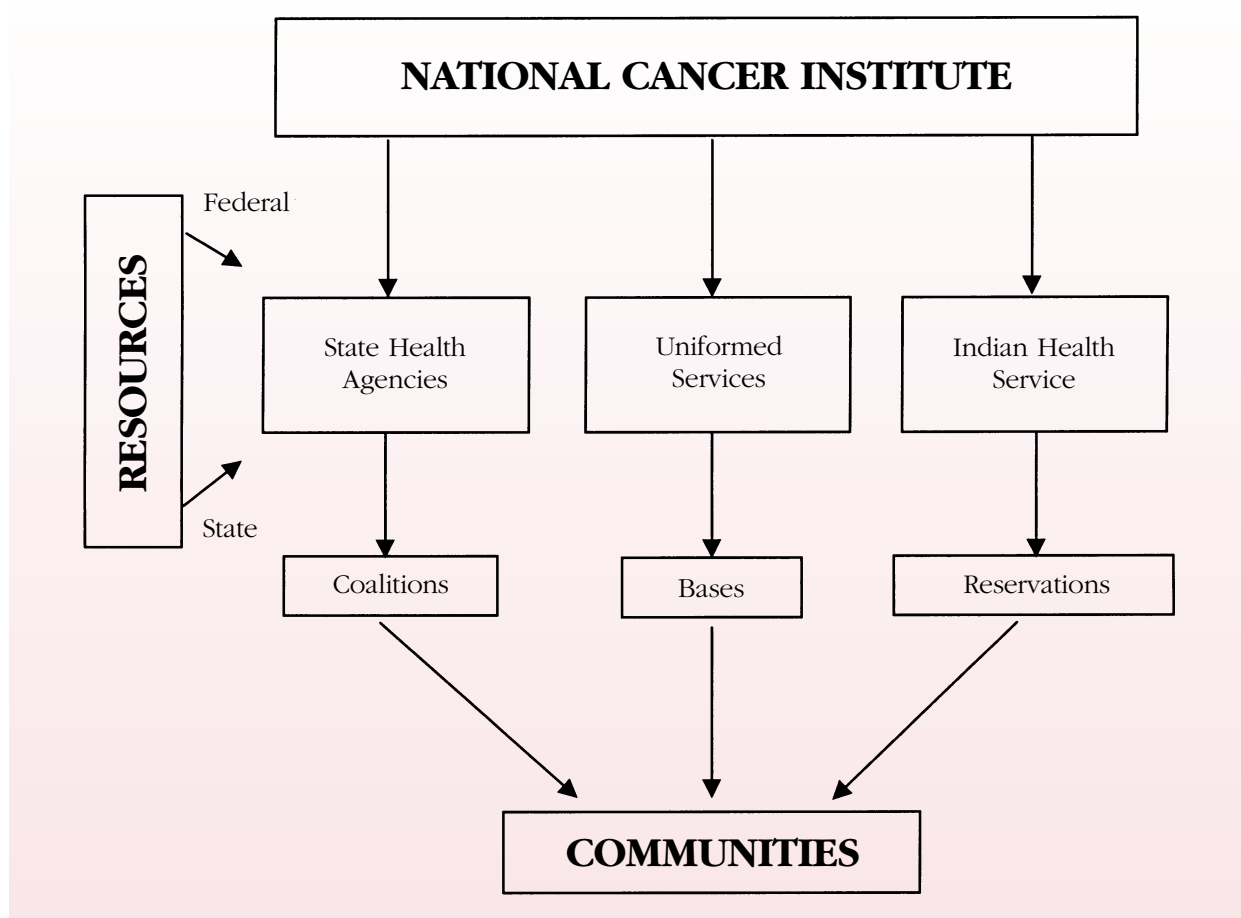
**A**t the State and community levels, the National Cancer Institute's (NCI's) 5 A Day Program attempts to develop and support an infrastructure and foundation from which research in the basic and behavioral sciences can be applied for the purpose of improving dietary behaviors in the U.S. population. Although the Program aspires to this vision, it is challenged by limited resources to attain this vision uniformly across the United States. Community programs are charged with 1) raising public awareness of the health benefits of eating five servings of vegetables and fruit a day and 2) conducting interactive activities to show people how to accomplish this goal. Those States with adequate resources and experience use a social marketing and theory-driven educational approach and conduct formative research in developing interventions. This chapter describes a model of State and community organization and intervention that has worked effectively for the 5 A Day Program.

There are two key aspects to this model: 1) the State program structure and its growth and 2) the resources that support it (see Figure 1). The State

structure derives from the process of licensing and enrolling State and territorial health agencies and their coalition partners. The tremendous growth in the State network of partners, essential for the widespread adoption of the 5 A Day Program, is reflected in the breadth and depth of the community Program's expansion, which also includes the uniformed services and Native American initiatives. Growth in the numbers of State and Federal Government licensees and their partners demonstrates the breadth of expansion, while the depth of expansion within each State is evidenced by the increasing diversity of participants, community organizations, 5 A Day initiatives, and mechanisms of program implementation.

The second key aspect of this model is the demand for resources needed to implement 5 A Day Program activities, which goes beyond the capability of any single funding source at either the State or Federal level. The latter part of this chapter will present the resources (fiscal/Federal, fiscal/non-Federal, nonfiscal/Federal, nonfiscal/non-Federal) that have supported community 5 A Day programs across the United States since 1993.

Figure 1. Organizational Framework for the Community Component



## COMMUNITY STRUCTURE AND GROWTH

A key facet of an effective model of community intervention is the working relationship within the organizational structure. The organizational structure and licensing process that are used in the national 5 A Day Program are addressed in Chapter 2. Because the Program's goal is to encourage all Americans to increase consumption of vegetables and fruit, a conduit was needed that could effectively transmit the 5 A Day message into communities across the Nation. State public health agencies are ideally suited to take the lead in organizing community efforts to transmit the message because they employ

appropriate professionals, such as nutritionists, and because they have a mandate to protect and promote the health of the public. For this reason, NCI chose State health agencies to serve as State health authorities for the program. In this capacity, they coordinate State-based 5 A Day programs and provide an unbiased forum for various members of the private sector to collaborate with the public sector on a common mission.

### State Licensees

As State or statewide coalition structures were established through licensing agreements, State health officers appointed coordinators to do the following: 1) provide leadership for structuring and implementing State 5 A Day programs through a network of participants (i.e., the 5 A Day coalitions) to provide ongoing Program planning and

support; 2) represent State health agencies in upholding the scientific credibility of the national 5 A Day Program; 3) maintain high standards in the quality of interventions by emphasizing activities that motivate and assist target populations to change dietary behavior, based on the matrix presented in Chapter 1; and 4) serve as the contact for all communications with NCI, reporting program accomplishments to NCI to facilitate the sharing of ideas among contributing States and to contribute to the national 5 A Day database. As part of the Program's reporting requirements, the States submit semiannual progress reports to NCI. NCI uses these State data to evaluate the process of program implementation (see Chapter 7).

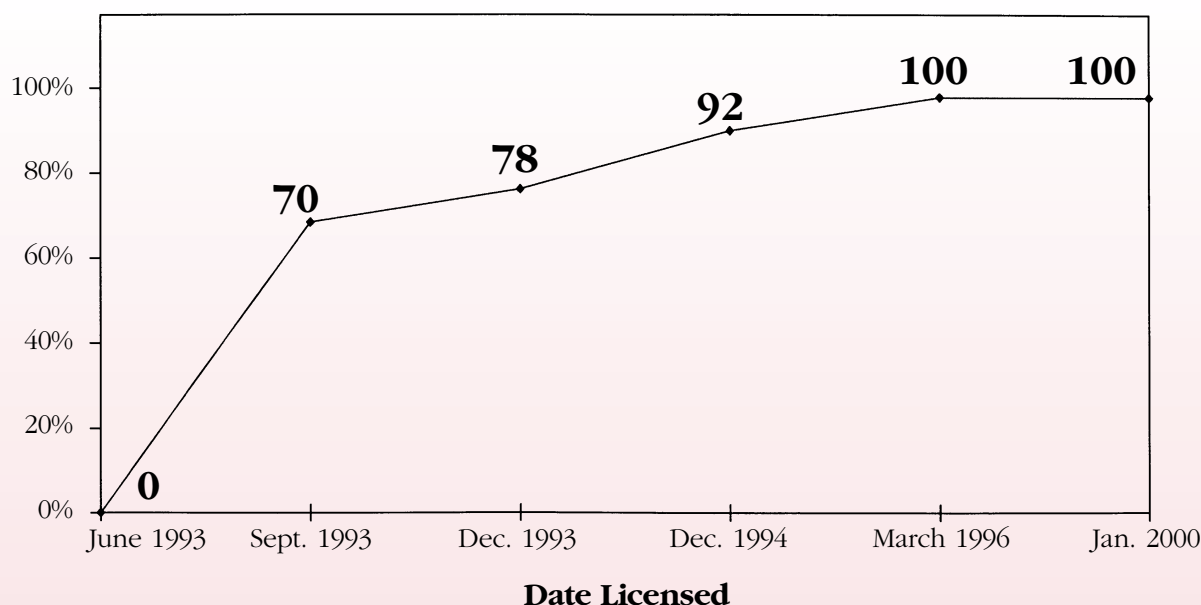
The national 5 A Day Program has experienced tremendous growth since the States began to join it in mid-1993 (see Figure 2). A majority (70 percent) of State health agencies signed the one-time license agreement (valid for an indefinite period) with NCI within the first 3 months of the process. As of March 1996, NCI had licensed 55 health agencies, including all 50 States, the District of Columbia, and 4 of the 6 U.S. territorial health agencies. Over the first 7 years of the community program, all NCI-licensed State and territorial health agencies maintained their commitment to the program.

## Coalitions

Through coalitions, the State and territorial licensees coordinate efforts and operationalize the national 5 A Day Program at the community level. In 1998, 90 percent of NCI's licensed States had statewide or local coalitions committed to implementing 5 A Day activities, and 76 percent of these State coalitions were created exclusively for 5 A Day Program support. These 5 A Day activities include social marketing campaigns, interactive nutrition education programs for schoolchildren, supermarket promotions, farmers market programs, and collaboration with the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Coalitions are discussed in greater detail in the "Coalition Initiatives" section to follow. Approximately 36 percent of the State health agencies have signed sublicensing arrangements with these State or local coalitions to grant member organizations permission to use the service-marked 5 A Day logo and program materials. Nearly all States also sublicense single entities, such as local health departments and community organizations.

This vast network of diverse community participants demonstrates the depth of the national 5 A Day Program's expansion. The composition of

**Figure 2. Growth in Percentage of State Health Agency Licensees**

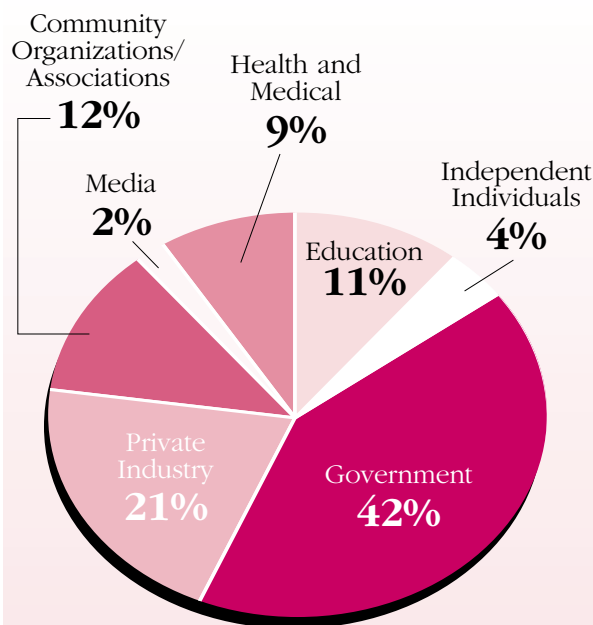


these community coalitions varies greatly from State to State. In some, coalitions or advisory groups are restricted to sublicenses with local health departments. In others, the coalition membership is as diverse as the State it represents. Nationwide, the State and local coalitions represent more than 2,600 member organizations.

Although the largest single category of coalition participants comprises State agencies or programs, the majority of individual coalition participants are nongovernmental entities. State coalition participants include State departments of health, agriculture, and education; military bases/academies; as well as local government agencies and programs. Government agencies and programs represent 42 percent of individual coalition participants. The food industry (including the vegetable and fruit industry—retailers, wholesalers, and commodity groups—as well as the restaurant industry) and the nonfood industry (the pharmaceutical and insurance industries and other businesses) represent 21 percent of coalition partners. Community organizations (e.g., churches, Scouts, Young Men's Christian Association), professional associations (the American Dietetic Association), and voluntary organizations (American Cancer Society and American Heart Association) represent another 12 percent of coalition partners. Schools and universities represent 11 percent, health care practices (hospitals, health maintenance organizations, and clinics) represent 9 percent, the media (i.e., public relations firms, television, radio, newspapers) represent 2 percent, and individuals represent the remaining 4 percent (see Figure 3).

The national 5 A Day Program also has benefited from the extensive and dedicated involvement at the State and local levels of two programs that are funded by the U.S. Department of Agriculture (USDA): the WIC Program and the Cooperative Extension Service. As of 1999, a total of 137 Cooperative Extension Service and 37 WIC representatives served on 21 State coalitions affiliated with the 5 A Day Program. Across the country, many States have developed WIC programs with farmers markets to deliver the 5 A Day message, creating and distributing materials that target the high-risk population of those receiving WIC services. The Cooperative Extension Service is very active in the 5 A Day Program, as shown by the level of its participation in coalitions. In fact, Delaware's Cooperative

Figure 3. 5 A Day State Coalitions Membership



Note: Percentages are rounded up, thereby causing the total to exceed 100.

Extension Service, instead of that State's health agency, directs the 5 A Day effort.

## Coalition Organization

The Program expansion determined by each coalition is described by four variables used in community organization theory: power sharing, coalition diversity, evolution of sophisticated coalition structures, and strategic planning. These variables were taken into account in the planning phase of the national program and were incorporated into the Program guidelines and subsequent training of State coordinators. Chapters 4 and 11 illustrate how this organizational theory is applied in the community.

The first aspect in coalition organization is the power-sharing structure (Rogers et al., 1993) between the State coordinator and the coalition. Members of this structure are collaborators in a common mission (Glanz, 1990). Although the coordinator may take the lead in establishing a 5 A Day coalition or a steering committee or incorporating the 5 A Day message into an existing coalition, all coalition members play a vital role in determining the programmatic direction of the coalition.

To be formally associated with a State 5 A Day program, the coalition chair must sign a sublicense agreement with the State, unless the chair represents the State. The organization represented by the chair can be highly influential by virtue of the chair's visibility and leadership position. For example, the Washington State 5 A Day coalition appointed an industry leader as the chair and thereby attracted greater involvement by that industry in 5 A Day Program activities.

Ongoing State coordinator responsibilities include membership recruitment and activation, which is facilitated by the license agreement. This ensures that a single lead agency is responsible for program continuity and adherence to program guidelines. Some 5 A Day coalitions have signed a State-developed memorandum of agreement between the coordinator and the members to obtain commitment to the program guidelines.

A second aspect of coalition organization is the coalition's diversity, which may be an asset but which may also reflect the potential for conflicting interests among the different members. The most obvious example is the public/private partnership, which shares both common interests and reconcilable differences (Glanz, 1990). The differences may lie in the respective partners' organizational structures, agendas, and ways of doing business (i.e., the speed at which business is accomplished). These differences are reconciled by the common interests and shared mission of increasing the demand for and consumption of vegetables and fruit.

The third aspect in coalition organization is the evolution of more sophisticated and enduring coalition structures. A few States (e.g., California, Kansas, Utah) have incorporated their State 5 A Day coalitions as nonprofit corporations. This has enabled the coalition to accept industry donations, to hold regular meetings, and to closely monitor progress. For example, the Utah 5 A Day association received \$12,000 in industry donations and \$3,000 in in-kind contributions during the first half of 1997. The entire association, which includes 1 local coalition and 12 local health districts, meets about 3 times per year; individual subcommittees meet bimonthly. All Utah 5 A Day activities are monitored through quarterly 5 A Day awareness surveys. Utah reports that awareness of the 5 A Day message has increased from 4.6 percent in July 1994 to 34.7 percent in January 1998 (Valley Research, Inc., 1994-1998).

The fourth aspect in coalition organization is the coalition's strategic planning. The organizational structures and issues selected for action are self-initiated by the coalition; NCI's role is ancillary, providing support where requested. This supports the aim of community ownership of a 5 A Day program. For example, several State coalitions (e.g., Florida, Washington, Pennsylvania, Illinois) held initial conferences to launch their partnership programs, developed mission statements, organized task forces, set action plans, and continued to hold regular meetings. State coalitions organize task forces or subcommittees by channels (in Washington, for example, into media, worksites/retail, and schools categories) or by resource utilization (Utah, for instance, developed a fundraising category).

### North Carolina: An Example of a Successful Coalition

A brief case study of the North Carolina 5 A Day program and coalition illustrates visionary strategic planning. The initial State 5 A Day coalition was small and lacked diversity, representing primarily governmental agencies. Lack of available State funding constrained the coalition's ability to meet the challenge of increasing vegetable and fruit consumption across the State, a particular challenge given North Carolina's lower consumption figures relative to other States (*Behavioral Risk Factor Surveillance System*, 1996). Recognizing the need for action, the 5 A Day Program director at the State health agency took the first step toward securing the necessary support to reverse this trend. The director approached the State leadership for cancer control funds to be set aside for prevention (specifically nutrition) and, through \$177,000 in funding for mini-grants, involved existing and new 5 A Day coalition members in implementing effective nutrition interventions. Mini-grant awardees joined the State 5 A Day coalition, helping to revitalize and move it toward a more diversified, community-owned organizational structure.

The energized coalition worked collaboratively with North Carolina's Advisory Committee on Cancer Coordination and Control to incorporate specific 5 A Day objectives into the statewide Cancer Strategic Plan. Funding to implement portions of the plan was requested and obtained from

the State legislature. The success of the mini-grant projects funded by the set-aside funds from the cancer control program (discussed in the section “Mini-Grants: Case Studies”) positioned the program/coalition to receive some of these new State funds for implementing 5 A Day activities. The Program/coalition was instrumental in overseeing the implementation of the five new community-based 5 A Day projects funded by \$85,000 of the total appropriation. Two of these projects focused on translating successful interventions from a 5 A Day Black Churches United for Better Health community-based research study to field application (see Chapter 11). Another project received seed funding for a comprehensive social marketing initiative, the 5 A Day Challenge, which is scheduled to be expanded to a multimillion dollar program, pending funding.

The quality of these projects, in turn, allowed the State to leverage Federal dollars from the Centers for Disease Control and Prevention (CDC) for additional support, particularly for the 5 A Day Challenge. In addition, the American Cancer Society donated \$10,000 to support the translation project; the Institute of Nutrition, University of North Carolina/Chapel Hill, provided in-kind support to the 5 A Day CD-ROM project; and the private sector gave monetary as well as in-kind support, such as donation of computers. This demonstrates how North Carolina’s long-term plans for improving the infrastructure for implementing health promotion were achieved through both the support of the State health agency by way of this evolutionary process and coalition partnerships, which grew to be vested in the program through their fiscal support and the contribution of other resources.

### Coalition Initiatives

The various coalition initiatives are delineated in terms of the intervention goals, community settings, intervention types, and size of target audiences. The goals of the 5 A Day interventions are defined in the “Guidelines for Health Authorities” of the program guidelines (see Appendix A-4). These include creating awareness, developing skills, developing social support networks (e.g., suggesting how to use peer influence at work to reinforce healthy eating habits), and promoting food systems or other environmental support

(e.g., developing worksite catering policies). The community intervention channels are diverse. These can include schools; media; worksites; supermarkets; food-assistance programs; and community settings, such as childcare centers, churches, and senior centers (see Chapter 1). Types of interventions conducted in communities range from simple presentations on the nutritional benefits of eating five servings of vegetables and fruit a day and supermarket tours for schoolchildren to comprehensive, multichannel campaigns, such as California’s Power Play initiative (Foerster et al., 1995). The latter is addressed in more detail in Chapter 4. The size of the target audience also ranges from classroom to school-wide and from a radio listening audience to that of a statewide media campaign. The plethora of options made available to coalitions by the multitude of goals, settings, and types of interventions allows coalitions to select those methods that best meet their community’s needs and to utilize the available resources.

### How Do Coalitions Deliver Interventions?

Coalitions must leverage limited resources to conduct 5 A Day interventions and may use a variety of mechanisms for doing so. One mechanism is to integrate the 5 A Day concept into a variety of existing health agency programs, including those for food assistance, physical activity, diabetes, or cardiovascular disease, as well as those involving community systems, such as farmers markets and food recovery. This integration eases the demand on resources needed solely for a given 5 A Day program. Interventions also have been implemented by coalition member organizations or in partnership with other community-based groups and organizations on an ad hoc basis. Coalitions also raise their own funds and then use them for programming, such as the development of curricula or production of costumes and characters (e.g., Sir 5 A Day, in Colorado).

Another mechanism for delivering the 5 A Day interventions is through public/private partnerships with the vegetable and fruit industry. Florida’s Orlando Regional Partnership Program, led by NCI and the Produce for Better Health Foundation (PBH), is an example of a model partnership effort. This program develops and implements comprehensive 5 A Day



nutrition education initiatives in defined community channels around the greater Orlando area, which is a major media market. Partners involved in the regional program include industry, Government, and community organizations. PBH fundraising efforts help garner support for these initiatives, with targeted outcome measures that define how these funds will be utilized.

A third mechanism for conducting 5 A Day programming is through mini-grants funded by State health agencies. Mini-grants create new opportunities for organizations involved in health promotion to develop and evaluate initiatives more thoroughly than can be done in the absence of a defined budget. The State benefits by receiving detailed analyses on the design, implementation, and outcome of the projects. Two case studies on mini-grants, in Ohio and North Carolina, are described below.

## Mini-Grants: Case Studies

### Ohio

The Federal Preventive Health and Health Services Block Grant has funded four 5 A Day mini-grants to local health departments in Ohio, totaling \$100,000 per year for 3 years (1996-1999). Initial grants were aimed toward raising awareness through school-based nutrition education and featured a classroom 5 A Day curriculum and partnerships with Team Nutrition and Dole Food Company. Parts of the curriculum were incorporated into permanent exhibits at a county park serving over 50,000 schoolchildren per year. Subsequent mini-grants were directed toward policy and environmental change. One 3-year grant funded a community gardening project to introduce inner-city, low-income families to the concept of eating five servings of vegetables and fruit a day, in a partnership with the Ohio State University Extension, WIC, and Head Start programs.

### North Carolina

In 1996, the North Carolina Department of Health and Human Services awarded local health departments \$177,000 for eight mini-grants to promote the 5 A Day message. Research and evaluation included the use of surveys and focus groups to establish baseline knowledge and practice.

Several mini-grants also funded process and outcome evaluations, including 24-hour dietary recalls. The goals of the interventions encompassed each of those prescribed by the national 5 A Day Program guidelines. The mini-grant interventions featured more than 350 activities, including a media campaign with community liaison and health care facilities; interactive home-learning activities for elementary school children; market promotions in local groceries and farmers markets; and training of school food-service managers by culinary chefs. The mini-grant awards served as seed money for obtaining in-kind assistance valued at \$134,275 from various public and private partners, such as the American Cancer Society, the Culinary Association, schools, Government agencies, dietetic associations, the media, and retailers.

Because State health agencies do not have jurisdiction over all the subpopulations within their boundaries, it became apparent over time that other partners were required to expand the reach of the national 5 A Day Program. Therefore, several other Federal partners were enlisted to reach out to additional target populations, such as military personnel and Native Americans.

## OTHER FEDERAL PARTNERS

Particular populations that are not served by the States include the military on U.S. bases and Native Americans residing on reservations. Consequently, in 1997, NCI licensed two Federal Government agencies, the U.S. Uniformed Services Health Promotion Programs and the Indian Health Service (IHS), to deliver the 5 A Day message to these populations. The Federal Government license agreements are similar to the State health agency agreements but have some notable differences. The purpose of the Federal initiatives is to develop a network of national programs and to promote 5 A Day throughout the licensee's Federal agency, instead of building a network of community-level health organizations. Also, Federal licensees do not sublicense other participants but are encouraged to collaborate where possible with the State 5 A Day program coordinators (see Appendix A-6, "Guidelines for Federal Government Programs").

## **U.S. Uniformed Services**

By April 1997, NCI licensed the health promotion programs of all five U.S. uniformed services (Air Force, Army, Coast Guard, Navy, and Marines) to develop 5 A Day programs on military bases, stations (such as clinics, food services, and commissaries), air fleets, and ships and at the service academies. The target audience comprises active duty service members, their families, and retirees, encompassing more than 7 million military (noncivilian) personnel, as well as the civilian workforce in the U.S. Department of Defense (DOD). The DOD 5 A Day initiative was formed by a DOD 5 A Day team that consisted of 13 members from all the uniformed services, the Army-Air Force Exchange Service, and the Defense Commissary Agency. DOD's Nutrition Council, as part of its initiative to lower fat and increase fiber intake, embraced a comprehensive approach for the DOD 5 A Day initiative. This approach includes research, food-service training, interventions, materials, and communications.

First, the DOD 5 A Day Program research consists of pilot studies in the Army, Navy, and Air Force to evaluate the effectiveness of 5 A Day interventions at military bases. Also, the ongoing DOD health-behavior survey has been used to collect baseline awareness and consumption data. The health-behavior survey is conducted every 3 years (1992, 1995, 1998), either in person or by mail, on a study population totaling 31,000 adults meant to represent the entire military. These studies will provide a foundation for an expanded research effort within the military between NCI and DOD. In 1998, the Army's health promotion coordinators and medical treatment facility (MTF) dietitians conducted a pilot intervention in troop dining facilities at Fort Campbell, Kentucky. An initial survey to assess the intervention's effectiveness in raising 5 A Day awareness was conducted and revealed significant differences between the amount of vegetables and fruit that soldiers thought they should eat and what they actually consumed. Key findings showed that about 60 percent of the subjects had heard of the 5 A Day initiative and were more likely to understand its message versus those who hadn't previously heard the message. About 25 percent knew that "five or more" was the recommended number of daily servings one should consume; however, only 20 percent consumed five or more servings.

Second, food-service training programs encompassing the 5 A Day message have been developed by the Navy and Army to train military cooks in how to prepare healthier foods, including serving more vegetables and fruit. The Navy trains the fleet and food management teams twice a year.

Third, the DOD 5 A Day initiative provides for interventions that generate a continuous health message throughout the year, with special emphasis during National 5 A Day Week, which is held each September. The initiative includes collaboration with the food service (i.e., the Defense Commissary Agency) to promote 5 A Day at the point of sale. A CD-ROM featuring Graham Kerr, the gourmet chef and television personality, is promoted through the military media. The Kerr CD, "Do Yourself A Flavor," was developed by NCI to facilitate behavior change by providing practical tips on easy ways to eat more vegetables and fruit.

Fourth, the DOD 5 A Day team is developing nutrition education materials for use by the MTF dietitians in community nutrition education efforts that take place during National 5 A Day Week. Two nutrition videos are under development, including an overview of the DOD 5 A Day campaign and a demonstration of how military service members get their five servings a day in various situations. In addition, the 5 A Day message is being integrated into DOD policies (Army) and promotions on folate consumption. A folate/5 A Day booklet was developed for use in the Put Prevention into Practice initiative of the U.S. Department of Health and Human Services. Another educational aid under development is a CD-ROM with the 5 A Day slide presentation and various intervention strategies.

Fifth, the DOD 5 A Day team holds monthly conference calls to facilitate interservice communications and to develop dietary behavior change strategies for service members and their families. Within a short timeframe, the DOD has launched an extensive campaign to promote increased consumption of vegetables and fruit among U.S. military personnel. An atmosphere of open exchange of ideas and resources between the various services as well as directed leadership has contributed to the early success of this effort. The Navy and Army each dedicate an average of 0.25 of a full-



time equivalent and \$25,000 per year on 5 A Day efforts from the national program offices. The Air Force spends approximately \$30,000 per year on 5 A Day promotions. Air Force 5 A Day efforts are decentralized, and bases report dedicating between 0.5 to 0.9 of a full-time equivalent on 5 A Day.

## Indian Health Service

The Indian Health Service signed a license agreement with NCI in January 1997 to disseminate 5 A Day promotions to the Native American population. A 5 A Day advisory body that includes tribal representatives was established to provide guidance for the IHS 5 A Day program. During 1998–1999, IHS efforts were localized to the northwestern region of the country and entailed dissemination of 5 A Day materials and information at health fairs, schools, diabetes screenings, commodity programs, and health clinics on reservations. The breadth of the IHS 5 A Day program reach has expanded through the 300 IHS health center nutritionists located in 300 of the 500 tribes. The IHS 5 A Day coordinator builds partnerships with existing programs and groups on the reservations to implement promotions, policies, and environmental changes in order to encourage increased consumption of vegetables and fruit. These programs include the IHS farmers markets, the USDA's Commodity Program, the IHS Diabetes Program with 185 subprograms, WIC, and Head Start. There are 170 Head Start sites working with industry (such as local produce marketing, retail, and distribution) to improve access to vegetables and fruit in rural areas. In 1999, Alaska's Department of Health received an NCI/CDC evaluation grant to promote 5 A Day and increase the availability of vegetables and fruit in rural grocery stores. In addition, IHS plans to interface with the Native American colleges through university courses that teach healthy ways of preparing traditional foods.

Several CDC/NCI intervention grants to Native American tribes have produced strategies for reaching members of this population. The Penobscot project in Maine integrated 5 A Day interventions into existing programs by establishing a 5 A Day coalition. The intervention efforts included a variety of activities in the community, schools, and supermarkets as well as with the eld-

erly (CDC/NCI, 1994; 1995). In Wisconsin, the Ho-Chunk Nation project combined the 5 A Day message with physical activity and featured cooking classes on healthy and traditional Native American dishes. The Seminole Tribe project in Florida aimed to lower the risk for obesity among preschool and elementary school children by improving nutrition awareness and encouraging more exercise. The project featured school-based 5 A Day nutrition education for children, parents, faculty, and food-service staff. A few State health agency intervention grants also targeted the Native American population. For instance, South Dakota conducted focus groups with individuals from the Native American communities to develop culturally appropriate 5 A Day materials; in another case, New Mexico conducted food demonstrations for the Native American population.

## RESOURCES FOR IMPLEMENTING COMMUNITY 5 A DAY PROGRAMS

The Federal support for Program implementation at the State and community levels includes both fiscal and nonfiscal resources. The fiscal support from NCI is primarily research focused (see Chapter 8). However, NCI provides continuous technical assistance to all 55 licensees (States, the District of Columbia, and 4 U.S. territories), so that State-level 5 A Day coordinators can implement their programs at the community level.

### Fiscal—Federal

NCI does not provide direct funding to State health agencies to help implement their 5 A Day programs, nor to run their 5 A Day State coalitions. However, because 5 A Day has addressed one of the Healthy People 2000 Nutrition Objectives (see Chapter 1), NCI has successfully partnered with other Federal agencies, such as CDC, to share resources. NCI's joint efforts with CDC date to the start of the State and community component of the national 5 A Day Program. State-level interventions that include a 5 A Day component received a boost through the 1-year CDC intervention grants that were made to State and territorial health agencies and tribes (consisting of 38 grants that averaged \$25,000 each) in

fiscal years 1994 and 1995. These grants served as a catalyst to initiate and support 5 A Day programs in many States and through specific community channels. For example, a total of 13 intervention grants funded coalition development in Alaska, Arkansas, Maine, Michigan, Nebraska, New Mexico, and Washington as well as coalition expansion in Alabama, Hawaii, Minnesota, Missouri, Montana, and Vermont.

Another Federal partner, the USDA Economic Research Service, provided grant funding through the Food Assistance and Nutrition Research Program to promote the increased consumption of vegetables and fruit. In 1999, USDA funded 1-year grants totaling \$4.2 million to 16 states for Team Nutrition training and demonstration projects (USDA press release, July 1999). Efforts to incorporate the 5 A Day message into these projects are ongoing.

### **Fiscal—Non-Federal**

With limited direct Federal funding available for State program implementation, State health agencies must rely primarily on the resources available within their own agencies and communities to implement 5 A Day activities. State health agencies successfully leverage statewide resources to support their 5 A Day efforts through Preventive Health and Health Services Block Grant funds; tobacco tax dollars; Nutrition Education and Training (NET) Program funds; and other sources, such as the California/USDA matching grants. Several examples follow that illustrate the types of fiscal resources garnered for State 5 A Day programs. For a more comprehensive analysis of State fiscal resources, see Chapter 7.

Utah used an estimated \$25,000 in block grants to develop a fiber-optic interactive display that teaches children about 5 A Day. The State estimates that each year over 20,000 children will see the permanent display. North Carolina obtained \$60,000 (in staff time) from the block grants and nearly \$40,000 from NET funds to implement 5 A Day initiatives in schools. Maine garnered about \$20,000 from the block grant funds to sponsor a statewide 5 A Day coalition meeting that 200 people attended. The purpose was to present the research base for the 5 A Day Program, identify resources available to the coalition, and discuss

intervention strategies. The coalition applied the concepts and ideas shared at the meeting to the development of their strategic plan. Part of Michigan's 5 A Day Program is carried out through the Michigan Public Health Institute. The State passed a tobacco tax law that levied a tax of an additional \$ .50 per pack on cigarettes for a total tax of \$0.75 per pack. Six percent of this tax comes to the State health agency as the Healthy Michigan Fund for prevention programs, some of which has been used for 5 A Day activities.

### **Nonfiscal—Federal**

NCI, PBH, and CDC dedicate Federal nonfiscal resources in support of State 5 A Day programs. These resources are invaluable as they provide the stimulus for new programmatic direction in the States and the basic materials for conducting these programs. NCI provides ongoing technical assistance to all State licensees through four key mechanisms: regular communications, training opportunities, program materials, and media assistance.

First, a nationwide system for disseminating Program intervention strategies and research development was established at the launch of the community-level program in 1993. This streamlined system has only one key contact for NCI—the State coordinator—in each State. The State coordinator acts as the conduit for sharing information from NCI with coalition members. The logistics and expense of maintaining regular communications among 55 licensees present a challenge for a program with a small operating budget. Consequently, since 1993, NCI has partnered with CDC to hold national conference calls for NCI licensees and grantees each month. The conference calls enable NCI to regularly update the State licensees on national promotions, research news, and effective ways to implement 5 A Day behavior change interventions. The research updates were presented by the principal investigators from each of the nine NCI 5 A Day grants, and the NCI/CDC evaluation grants focused on the practical aspects of intervening in their target groups. Previous topics have included nutrition advocacy, collection and use of produce sales data, vegetable and fruit consumption data, partnering with industry and

USDA, and results of research grants. In 1996, NCI launched a 5 A Day Program Web site ([www.5aday.gov](http://www.5aday.gov)) and, in 1997, a listserv, an electronic network linking NCI with all 5 A Day State coordinators and national partners, to facilitate information exchange across the Nation and beyond. The Web site features an interactive consumer-tracking chart espousing 5 A Day and physical activity recommendations developed by NCI and CDC. This site is integrated into the NCI 5 A Day Program Web site and links to CDC's Web site on nutrition program activity.

Second, NCI collaborates with CDC to obtain support for national training conferences that have focused on behavior change strategies, program structuring, and implementation. Three national 5 A Day Program meetings were held in Kansas City (Missouri, 1993), Atlanta (1994), and Phoenix (1996) to provide States with the necessary tools to achieve the Healthy People 2000 nutrition objectives. NCI also worked with CDC on four national distance-education training sessions between 1994 and 1996 that addressed community-based nutrition interventions focused on working with the media and introducing behavior change strategies to supermarkets, worksites, and schools. Several of these televideo conferences used 5 A Day as an exemplary model. The televideo conferences are a part of the CDC-wide Public Health Training Network, a national distance-learning program for professionals.

Third, NCI developed 5 A Day materials for use by State licensees. These include the Program starter kit; bulk quantities of printed, theme-based promotional materials; sample educational materials; easy-to-use campaign kits (such as the 5 A Day Week community intervention kit) providing reproducible graphics, template press releases, intervention ideas, and stepwise instructions; a speaker's kit; and media materials. NCI printed nearly 3 million copies in 1997 and over 4 million copies in 1998 of 5 A Day materials and distributed these products to the State licensees and NCI's Cancer Information Service (CIS) outreach program. The CIS program, which includes more than 40 outreach coordinators across the United States, provides technical assistance and materials to conduct

cancer education, media campaigns, and community programs. In 1998, these materials focused on the topics of physical activity, elementary school children, issues relevant to the African-American community, and easy recipes.

In December 1996, NCI launched a national clearinghouse of 5 A Day materials to facilitate the exchange of nutrition intervention materials and strategies. This collection contains 284 nutrition education materials developed by 40 State licensees and their coalition partners and is accessible through the NCI 5 A Day Program Web site. The materials include brochures, curricula and lesson plans, resource kits and program materials, recipes, focus group and evaluation reports, posters, newsletters, survey instruments, press releases and kits, calendars, and audiotapes. For example, several Michigan resource packages were developed for professionals and for the general public to help increase awareness of the 5 A Day message.

Fourth, media assistance is provided to the State licensees through the CIS outreach program. CIS assists State coordinators through networking, distribution of printed materials and media lists, recruitment of speakers, and development of community programs. The CIS 1-800-4-CANCER phone number serves as a public resource and is listed in State 5 A Day media campaign kits. All States have used CIS in their promotions at least once.

### **Nonfiscal—Non-Federal**

Licensed State health agencies dedicate an average of 1.0 full-time equivalent per year to conduct 5 A Day-related program activities. This includes the staff time of State coordinators and other professionals (NCI, Semi-Annual Progress Reports, 1995-1998). The industry partner, the PBH Foundation, provides contacts in the vegetable and fruit industry that support community 5 A Day events by, for example, donating produce and staff time for State fairs. In-kind contributions by industry partners between 1991 and 1999 totaled approximately \$368 million (PBH estimate), including retail ads and promotions, lending indirect support to community 5 A Day initiatives. Industry partners donate staff time and produce, provide incentives, and sponsor publicity efforts.

## SUMMARY

Several unique features of the national 5 A Day Program model that facilitated the Program's rapid adoption and expansion at the State level include voluntary participation, flexibility in implementation, and ready-to-use materials. First, the licensing process offers State health agencies a choice of participation or refusal. Voluntary involvement brings forth those participants willing and able to embrace a new initiative without any fiscal incentives from the Federal Government. Participation requires a great level of commitment of staff support at the State health agencies. Although the lack of direct funding limits the level of State activities, this arrangement has been mutually beneficial. The Federal Government invested a minimal amount of seed money to launch a nationwide campaign, while the States adapted the 5 A Day Program to meet their State health needs—in most cases, funding for the programs originated from the regular State programming budgets.

Second, the Program offers a minimally directed intervention protocol. In lieu of a set protocol, 5 A Day provides a great degree of implementation flexibility. The Program guidebook specifies only that a minimum of one intervention activity be conducted by the State health agency per year. The number and type of activities, their settings, and the target audiences are not prescribed in the guidelines, but descriptive options are offered.

Third, the ready-to-use promotional materials help facilitate the adoption of the 5 A Day programs. NCI encourages State licensees to contribute and relate their ideas and field experiences back to NCI to help develop more relevant and useful materials. Together, these facilitating factors have helped NCI institutionalize the 5 A Day Program across the Nation.

NCI has created the kind of vast State and community infrastructure that is needed with any large-scale effort to change behavior. For policy-makers in State health departments who previously had not operationalized nutrition within

chronic disease prevention, the 5 A Day Program convinced those professionals that they could make a difference in the nutrition arena and encouraged them to start allocating funds to promote better nutrition. The State health agency licensees are credited with helping the topic of nutrition gain prominence within their chronic disease prevention programs. In addition, the participation of industry and nonprofit foundations has made it possible to leverage Federal funds to reach larger numbers of people with more effective messages, and at less expense, than would be possible if the Government unilaterally undertook this effort. For example, Federal funds allow States to leverage other resources (especially volunteers) present in the community. To be successful at fulfilling their public health missions, coalitions require a lead umbrella agency, staff support to maintain the coalition, and leadership (Westat, 1998; personal interview with Brenda Motsinger, 5 A Day program leader, North Carolina). As a major nutrition program that is based on a simple, achievable, positive nutrition message, the 5 A Day Program's theme has been disseminated broadly to consumers through both industry and public-sector partners in communities across the United States.

Beyond its potential benefits for cancer control, the 5 A Day Program can serve as a model for other national programs, and its organizational framework can be utilized to incorporate other health promotion programs into the 5 A Day nutrition education strategy. In essence, the established infrastructure can be used to enhance technology transfer, expand and improve the public/private partnership, develop innovative approaches for increasing consumption of vegetables and fruit, and generate resources to support these initiatives and continue Program implementation. The public health infrastructure created by the 5 A Day Program can endure, but only through the continued dedication of those individuals and organizations that understand the vital role that nutrition plays in cancer prevention and other chronic diseases.

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